

```
In [1]: from ultralytics import YOLO
```

```
# Load YOLOv8 (nano version, fastest for beginners)  
model = YOLO("yolov8n.pt")
```

```
In [2]: results = model("https://ultralytics.com/images/bus.jpg")  
results[0].show()
```

Found https://ultralytics.com/images/bus.jpg locally at bus.jpg
image 1/1 C:\Users\HP\bus.jpg: 640x480 4 persons, 1 bus, 1 stop sign, 388.0ms
Speed: 7.4ms preprocess, 388.0ms inference, 4.7ms postprocess per image at shape (1, 3, 640, 480)

```
In [3]: results[0].save(filename="bus_output.jpg")
```

Out[3]: 'bus_output.jpg'

```
In [4]: # Train YOLO on small dataset (coco128)  
model.train(data="coco128.yaml", epochs=3, imgsz=640)
```

Ultralytics 8.3.189 Python-3.9.23 torch-2.8.0+cpu CPU (12th Gen Intel Core(TM) i5-1240P)

engine\trainer: agnostic_nms=False, amp=True, augment=False, auto_augment=randaug, batch=16, bgr=0.0, box=7.5, cache=False, cfg=None, classes=None, close_mosaic=10, cls=0.5, conf=None, copy_paste=0.0, copy_paste_mode=flip, cos_lr=False, cutmix=0.0, data=coco128.yaml, degrees=0.0, deterministic=True, device=cpu, dfl=1.5, dnn=False, dropout=0.0, dynamic=False, embed=None, epochs=3, erasing=0.4, exist_ok=False, fliplr=0.5, flipud=0.0, format=torchscript, fraction=1.0, freeze=None, half=False, hsv_h=0.015, hsv_s=0.7, hsv_v=0.4, imgsz=640, int8=False, iou=0.7, keras=False, kobj=1.0, line_width=None, lr0=0.01, lrf=0.01, mask_ratio=4, max_det=300, mixup=0.0, mode=train, model=yolov8n.pt, momentum=0.937, mosaic=1.0, multiscale=False, name=train3, nbs=64, nms=False, opset=None, optimize=False, optimizer=auto, overlap_mask=True, patience=100, perspective=0.0, plots=True, pose=12.0, pretrained=True, profile=False, project=None, rect=False, resume=False, retina_masks=False, save=True, save_conf=False, save_crop=False, save_dir=runs\detect\train3, save_frames=False, save_json=False, save_period=-1, save_txt=False, scale=0.5, seed=0, shear=0.0, show=False, show_boxes=True, show_conf=True, show_labels=True, simplify=True, single_cls=False, source=None, split=val, stream_buffer=False, task=detect, time=None, tracker=botssort.yaml, translate=0.1, val=True, verbose=True, vid_stride=1, visualize=False, warmup_bias_lr=0.1, warmup_epochs=3.0, warmup_momentum=0.8, weight_decay=0.0005, workers=8, workspace=None

	from	n	params	module
arguments				
0	-1	1	464	ultralytics.nn.modules.conv.Conv
[3, 16, 3, 2]				
1	-1	1	4672	ultralytics.nn.modules.conv.Conv
[16, 32, 3, 2]				
2	-1	1	7360	ultralytics.nn.modules.block.C2f
[32, 32, 1, True]				
3	-1	1	18560	ultralytics.nn.modules.conv.Conv
[32, 64, 3, 2]				
4	-1	2	49664	ultralytics.nn.modules.block.C2f
[64, 64, 2, True]				
5	-1	1	73984	ultralytics.nn.modules.conv.Conv
[64, 128, 3, 2]				
6	-1	2	197632	ultralytics.nn.modules.block.C2f
[128, 128, 2, True]				
7	-1	1	295424	ultralytics.nn.modules.conv.Conv
[128, 256, 3, 2]				
8	-1	1	460288	ultralytics.nn.modules.block.C2f
[256, 256, 1, True]				
9	-1	1	164608	ultralytics.nn.modules.block.SPPF
[256, 256, 5]				
10	-1	1	0	torch.nn.modules.upsampling.Upsample
[None, 2, 'nearest']				
11	[-1, 6]	1	0	ultralytics.nn.modules.conv.Concat
[1]				
12	-1	1	148224	ultralytics.nn.modules.block.C2f
[384, 128, 1]				
13	-1	1	0	torch.nn.modules.upsampling.Upsample
[None, 2, 'nearest']				
14	[-1, 4]	1	0	ultralytics.nn.modules.conv.Concat
[1]				
15	-1	1	37248	ultralytics.nn.modules.block.C2f
[192, 64, 1]				
16	-1	1	36992	ultralytics.nn.modules.conv.Conv
[64, 64, 3, 2]				
17	[-1, 12]	1	0	ultralytics.nn.modules.conv.Concat
[1]				

```

18          -1  1    123648  ultralytics.nn.modules.block.C2f
[192, 128, 1]
19          -1  1    147712  ultralytics.nn.modules.conv.Conv
[128, 128, 3, 2]
20        [-1, 9]  1          0  ultralytics.nn.modules.conv.Concat
[1]
21          -1  1    493056  ultralytics.nn.modules.block.C2f
[384, 256, 1]
22        [15, 18, 21]  1    897664  ultralytics.nn.modules.head.Detect
[80, [64, 128, 256]]
Model summary: 129 layers, 3,157,200 parameters, 3,157,184 gradients, 8.9 GFLOPs

```

Transferred 70/355 items from pretrained weights

Freezing layer 'model.22.dfl.conv.weight'

train: Fast image access (ping: 0.30.1 ms, read: 40.614.4 MB/s, size: 50.9 KB)

train: Scanning C:\Users\HP\datasets\coco128\labels\train2017.cache... 126 images, 2 backgrounds, 0 corrupt: 100% ————— 128/128 16244.2it/s 0.0s

val: Fast image access (ping: 0.10.0 ms, read: 35.614.2 MB/s, size: 52.5 KB)

val: Scanning C:\Users\HP\datasets\coco128\labels\train2017.cache... 126 images, 2 backgrounds, 0 corrupt: 100% ————— 128/128 0.0s

Plotting labels to runs\detect\train3\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.000119, momentum=0.9) with parameter groups 57 weight(decay=0.0), 64 weight(decay=0.0005), 63 bias(decay=0.0)

Image sizes 640 train, 640 val

Using 0 dataloader workers

Logging results to runs\detect\train3

Starting training for 3 epochs...

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
1/3	0G	3.008	4.901	2.54	285	640: 10
0%	8/8 0.11it/s	1:14s				
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 25%	1/4 0.04it/s	7.9s	WARNING NMS time limit 3.600s exceeded			
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 50%	2/4 0.06it/s	16.8s	WARNING NMS time limit 3.600s exceeded			
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 75%	3/4 0.07it/s	26.8s	WARNING NMS time limit 3.600s exceeded			
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 100%	4/4 0.11it/s	36.0s				
	all	128	929	0.0145	0.000776	9.56e-05
						2.11e-05

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
2/3	0G	2.914	4.637	2.524	256	640: 10
0%	8/8 0.12it/s	1:09s				
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 25%	1/4 0.04it/s	7.4s	WARNING NMS time limit 3.600s exceeded			
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 50%	2/4 0.06it/s	16.0s	WARNING NMS time limit 3.600s exceeded			
	Class	Images	Instances	Box(P	R	mAP50 mA
P50-95): 100%	4/4 0.11it/s	35.0s				
	all	128	929	2.53e-05	0.00344	7.36e-05
						1.81e-05

```

Epoch  GPU_mem  box_loss  cls_loss  dfl_loss  Instances  Size
  3/3      0G    2.978    4.777    2.52        204    640: 10
0% ----- 8/8 0.11it/s 1:10s
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 25% ----- 1/4 0.04it/s 7.7sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 50% ----- 2/4 0.06it/s 16.6sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 75% ----- 3/4 0.07it/s 26.6sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 100% ----- 4/4 0.11it/s 36.0s
              all      128      929  2.83e-05  0.0036  8.34e-05
2.1e-05

```

3 epochs completed in 0.090 hours.

Optimizer stripped from runs\detect\train3\weights\last.pt, 6.5MB

Optimizer stripped from runs\detect\train3\weights\best.pt, 6.5MB

Validating runs\detect\train3\weights\best.pt...

Ultralytics 8.3.189 Python-3.9.23 torch-2.8.0+cpu CPU (12th Gen Intel Core(TM) i5-1240P)

Model summary (fused): 72 layers, 3,151,904 parameters, 0 gradients, 8.7 GFLOPs

```

      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 25% ----- 1/4 0.04it/s 6.7sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 50% ----- 2/4 0.07it/s 14.3sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 75% ----- 3/4 0.08it/s 22.9sWARNING NMS time limit 3.600s exceeded
      Class  Images  Instances  Box(P      R      mAP50  mA
P50-95): 100% ----- 4/4 0.13it/s 30.9s
              all      128      929  3.07e-05  0.0041  9.31e-05
2.42e-05
              person      61      254  0.00218  0.291  0.00661
0.00172
              bicycle      3      6      0      0      0
0
              car      12      46      0      0      0
0
              motorcycle      4      5      0      0      0
0
              airplane      5      6      0      0      0
0
              bus      5      7      0      0      0
0
              train      3      3      0      0      0
0
              truck      5      12      0      0      0
0
              boat      2      6      0      0      0
0
              traffic light      4      14      0      0      0
0
              stop sign      2      2      0      0      0

```

0						
	bench	5	9	0	0	0
0						
	bird	2	16	0	0	0
0						
	cat	4	4	0	0	0
0						
	dog	9	9	0	0	0
0						
	horse	1	2	0	0	0
0						
	elephant	4	17	0	0	0
0						
	bear	1	1	0	0	0
0						
	zebra	2	4	0	0	0
0						
	giraffe	4	9	0	0	0
0						
	backpack	4	6	0	0	0
0						
	umbrella	4	18	0	0	0
0						
	handbag	9	19	0	0	0
0						
	tie	6	7	0	0	0
0						
	suitcase	2	4	0	0	0
0						
	frisbee	5	5	0	0	0
0						
	skis	1	1	0	0	0
0						
	snowboard	2	7	0	0	0
0						
	sports ball	6	6	0	0	0
0						
	kite	2	10	0	0	0
0						
	baseball bat	4	4	0	0	0
0						
	baseball glove	4	7	0	0	0
0						
	skateboard	3	5	0	0	0
0						
	tennis racket	5	7	0	0	0
0						
	bottle	6	18	0	0	0
0						
	wine glass	5	16	0	0	0
0						
	cup	10	36	0	0	0
0						
	fork	6	6	0	0	0
0						
	knife	7	16	0	0	0
0						
	spoon	5	22	0	0	0
0						
	bowl	9	28	0	0	0

0						
	banana	1	1	0	0	0
0						
	sandwich	2	2	0	0	0
0						
	orange	1	4	0	0	0
0						
	broccoli	4	11	0	0	0
0						
	carrot	3	24	0	0	0
0						
	hot dog	1	2	0	0	0
0						
	pizza	5	5	0	0	0
0						
	donut	2	14	0	0	0
0						
	cake	4	4	0	0	0
0						
	chair	9	35	0	0	0
0						
	couch	5	6	0	0	0
0						
	potted plant	9	14	0	0	0
0						
	bed	3	3	0	0	0
0						
	dining table	10	13	0	0	0
0						
	toilet	2	2	0	0	0
0						
	tv	2	2	0	0	0
0						
	laptop	2	3	0	0	0
0						
	mouse	2	2	0	0	0
0						
	remote	5	8	0	0	0
0						
	cell phone	5	8	0	0	0
0						
	microwave	3	3	0	0	0
0						
	oven	5	5	0	0	0
0						
	sink	4	6	0	0	0
0						
	refrigerator	5	5	0	0	0
0						
	book	6	29	0	0	0
0						
	clock	8	9	0	0	0
0						
	vase	2	2	0	0	0
0						
	scissors	1	1	0	0	0
0						
	teddy bear	6	21	0	0	0
0						
	toothbrush	2	5	0	0	0

0

Speed: 1.6ms preprocess, 108.2ms inference, 0.0ms loss, 115.2ms postprocess per image

Results saved to **runs\detect\train3**

Out[4]: ultralytics.utils.metrics.DetMetrics object with attributes:

```

ap_class_index: array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 11, 13, 14, 15,
16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38,
39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59,
60, 61, 62, 63, 64, 65, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 79])
box: ultralytics.utils.metrics.Metric object
confusion_matrix: <ultralytics.utils.metrics.ConfusionMatrix object at 0x000002
262E03A7C0>
curves: ['Precision-Recall(B)', 'F1-Confidence(B)', 'Precision-Confidence(B)',
'Recall-Confidence(B)']
curves_results: [[array([
0, 0.001001, 0.002002, 0.003003,
0.004004, 0.005005, 0.006006, 0.007007, 0.008008, 0.009009,
0.01001, 0.011011, 0.012012, 0.013013, 0.014014, 0.015015, 0.
016016, 0.017017, 0.018018, 0.019019, 0.02002, 0.021021, 0.0
22022, 0.023023,
0.024024, 0.025025, 0.026026, 0.027027, 0.028028, 0.02
9029, 0.03003, 0.031031, 0.032032, 0.033033, 0.034034, 0.035
035, 0.036036, 0.037037, 0.038038, 0.039039, 0.04004, 0.0410
41, 0.042042, 0.043043, 0.044044, 0.045045, 0.046046, 0.04704
7,
0.048048, 0.049049, 0.05005, 0.051051, 0.052052, 0.05
3053, 0.054054, 0.055055, 0.056056, 0.057057, 0.058058, 0.059
059, 0.06006, 0.061061, 0.062062, 0.063063, 0.064064, 0.0650
65, 0.066066, 0.067067, 0.068068, 0.069069, 0.07007, 0.07107
1,
0.072072, 0.073073, 0.074074, 0.075075, 0.076076, 0.07
7077, 0.078078, 0.079079, 0.08008, 0.081081, 0.082082, 0.083
083, 0.084084, 0.085085, 0.086086, 0.087087, 0.088088, 0.0890
89, 0.09009, 0.091091, 0.092092, 0.093093, 0.094094, 0.09509
5,
0.096096, 0.097097, 0.098098, 0.099099, 0.1001, 0.
1011, 0.1021, 0.1031, 0.1041, 0.10511, 0.10611, 0.10
711, 0.10811, 0.10911, 0.11011, 0.11111, 0.11211, 0.113
11, 0.11411, 0.11512, 0.11612, 0.11712, 0.11812, 0.1191
2,
0.12012, 0.12112, 0.12212, 0.12312, 0.12412, 0.1
2513, 0.12613, 0.12713, 0.12813, 0.12913, 0.13013, 0.13
113, 0.13213, 0.13313, 0.13413, 0.13514, 0.13614, 0.137
14, 0.13814, 0.13914, 0.14014, 0.14114, 0.14214, 0.1431
4,
0.14414, 0.14515, 0.14615, 0.14715, 0.14815, 0.1
4915, 0.15015, 0.15115, 0.15215, 0.15315, 0.15415, 0.15
516, 0.15616, 0.15716, 0.15816, 0.15916, 0.16016, 0.161
16, 0.16216, 0.16316, 0.16416, 0.16517, 0.16617, 0.1671
7,
0.16817, 0.16917, 0.17017, 0.17117, 0.17217, 0.1
7317, 0.17417, 0.17518, 0.17618, 0.17718, 0.17818, 0.17
918, 0.18018, 0.18118, 0.18218, 0.18318, 0.18418, 0.185
19, 0.18619, 0.18719, 0.18819, 0.18919, 0.19019, 0.1911
9,
0.19219, 0.19319, 0.19419, 0.1952, 0.1962, 0.
1972, 0.1982, 0.1992, 0.2002, 0.2012, 0.2022, 0.2
032, 0.2042, 0.20521, 0.20621, 0.20721, 0.20821, 0.209
21, 0.21021, 0.21121, 0.21221, 0.21321, 0.21421, 0.2152
2,
0.21622, 0.21722, 0.21822, 0.21922, 0.22022, 0.2
2122, 0.22222, 0.22322, 0.22422, 0.22523, 0.22623, 0.22
723, 0.22823, 0.22923, 0.23023, 0.23123, 0.23223, 0.233
23, 0.23423, 0.23524, 0.23624, 0.23724, 0.23824, 0.2392

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4,	0.24024,	0.24124,	0.24224,	0.24324,	0.24424,	0.2
4525,	0.24625,	0.24725,	0.24825,	0.24925,	0.25025,	0.25
125,	0.25225,	0.25325,	0.25425,	0.25526,	0.25626,	0.257
26,	0.25826,	0.25926,	0.26026,	0.26126,	0.26226,	0.2632
6,	0.26426,	0.26527,	0.26627,	0.26727,	0.26827,	0.2
6927,	0.27027,	0.27127,	0.27227,	0.27327,	0.27427,	0.27
528,	0.27628,	0.27728,	0.27828,	0.27928,	0.28028,	0.281
28,	0.28228,	0.28328,	0.28428,	0.28529,	0.28629,	0.2872
9,	0.28829,	0.28929,	0.29029,	0.29129,	0.29229,	0.2
9329,	0.29429,	0.2953,	0.2963,	0.2973,	0.2983,	0.2
993,	0.3003,	0.3013,	0.3023,	0.3033,	0.3043,	0.305
31,	0.30631,	0.30731,	0.30831,	0.30931,	0.31031,	0.3113
1,	0.31231,	0.31331,	0.31431,	0.31532,	0.31632,	0.3
1732,	0.31832,	0.31932,	0.32032,	0.32132,	0.32232,	0.32
332,	0.32432,	0.32533,	0.32633,	0.32733,	0.32833,	0.329
33,	0.33033,	0.33133,	0.33233,	0.33333,	0.33433,	0.3353
4,	0.33634,	0.33734,	0.33834,	0.33934,	0.34034,	0.3
4134,	0.34234,	0.34334,	0.34434,	0.34535,	0.34635,	0.34
735,	0.34835,	0.34935,	0.35035,	0.35135,	0.35235,	0.353
35,	0.35435,	0.35536,	0.35636,	0.35736,	0.35836,	0.3593
6,	0.36036,	0.36136,	0.36236,	0.36336,	0.36436,	0.3
6537,	0.36637,	0.36737,	0.36837,	0.36937,	0.37037,	0.37
137,	0.37237,	0.37337,	0.37437,	0.37538,	0.37638,	0.377
38,	0.37838,	0.37938,	0.38038,	0.38138,	0.38238,	0.3833
8,	0.38438,	0.38539,	0.38639,	0.38739,	0.38839,	0.3
8939,	0.39039,	0.39139,	0.39239,	0.39339,	0.39439,	0.3
954,	0.3964,	0.3974,	0.3984,	0.3994,	0.4004,	0.40
14,	0.4024,	0.4034,	0.4044,	0.40541,	0.40641,	0.4074
1,	0.40841,	0.40941,	0.41041,	0.41141,	0.41241,	0.4
1341,	0.41441,	0.41542,	0.41642,	0.41742,	0.41842,	0.41
942,	0.42042,	0.42142,	0.42242,	0.42342,	0.42442,	0.425
43,	0.42643,	0.42743,	0.42843,	0.42943,	0.43043,	0.4314
3,	0.43243,	0.43343,	0.43443,	0.43544,	0.43644,	0.4
3744,	0.43844,	0.43944,	0.44044,	0.44144,	0.44244,	0.44
344,	0.44444,	0.44545,	0.44645,	0.44745,	0.44845,	0.449
45,	0.45045,	0.45145,	0.45245,	0.45345,	0.45445,	0.4554
6,	0.45646,	0.45746,	0.45846,	0.45946,	0.46046,	0.4
6146,	0.46246,	0.46346,	0.46446,	0.46547,	0.46647,	0.46
747,	0.46847,	0.46947,	0.47047,	0.47147,	0.47247,	0.473
47,	0.47447,	0.47548,	0.47648,	0.47748,	0.47848,	0.4794
8,	0.48048,	0.48148,	0.48248,	0.48348,	0.48448,	0.4
8549,	0.48649,	0.48749,	0.48849,	0.48949,	0.49049,	0.49
149,	0.49249,	0.49349,	0.49449,	0.4955,	0.4965,	0.49
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stats: {'tp': [], 'conf': [], 'pred_cls': [], 'target_cls': [], 'target_img': []}
task: 'detect'

```

In [5]: !pip install ultralytics

Requirement already satisfied: ultralytics in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (8.3.189)

Requirement already satisfied: numpy>=1.23.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (2.0.2)

Requirement already satisfied: matplotlib>=3.3.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (3.9.4)

Requirement already satisfied: opencv-python>=4.6.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (4.12.0.88)

Requirement already satisfied: pillow>=7.1.2 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (11.3.0)

Requirement already satisfied: pyyaml>=5.3.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (6.0.2)

Requirement already satisfied: requests>=2.23.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (2.32.5)

Requirement already satisfied: scipy>=1.4.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (1.13.1)

Requirement already satisfied: torch>=1.8.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (2.8.0)

Requirement already satisfied: torchvision>=0.9.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (0.23.0)

Requirement already satisfied: psutil in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (7.0.0)

Requirement already satisfied: py-cpuinfo in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (9.0.0)

Requirement already satisfied: polars in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (1.32.3)

Requirement already satisfied: ultralytics-thop>=2.0.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from ultralytics) (2.0.16)

Requirement already satisfied: contourpy>=1.0.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (1.3.0)

Requirement already satisfied: cycycler>=0.10 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (0.12.1)

Requirement already satisfied: fonttools>=4.22.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (4.59.2)

Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (1.4.7)

Requirement already satisfied: packaging>=20.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (25.0)

Requirement already satisfied: pyparsing>=2.3.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (3.2.3)

Requirement already satisfied: python-dateutil>=2.7 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (2.9.0.post0)

Requirement already satisfied: importlib-resources>=3.2.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (6.5.2)

Requirement already satisfied: zipp>=3.1.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from importlib-resources>=3.2.0->matplotlib>=3.3.0->ultralytics) (3.23.0)

Requirement already satisfied: six>=1.5 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from python-dateutil>=2.7->matplotlib>=3.3.0->ultralytics) (1.17.0)

Requirement already satisfied: charset-normalizer<4,>=2 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from requests>=2.23.0->ultralytics) (3.4.3)

Requirement already satisfied: idna<4,>=2.5 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from requests>=2.23.0->ultralytics) (3.10)

Requirement already satisfied: urllib3<3,>=1.21.1 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from requests>=2.23.0->ultralytics) (2.5.0)

Requirement already satisfied: certifi>=2017.4.17 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from requests>=2.23.0->ultralytics) (2025.8.3)

Requirement already satisfied: filelock in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (3.19.1)

Requirement already satisfied: typing-extensions>=4.10.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (4.15.0)
 Requirement already satisfied: sympy>=1.13.3 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (1.14.0)
 Requirement already satisfied: networkx in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (3.2.1)
 Requirement already satisfied: jinja2 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (3.1.6)
 Requirement already satisfied: fsspec in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from torch>=1.8.0->ultralytics) (2025.7.0)
 Requirement already satisfied: mpmath<1.4,>=1.1.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from sympy>=1.13.3->torch>=1.8.0->ultralytics) (1.3.0)
 Requirement already satisfied: MarkupSafe>=2.0 in c:\users\hp\anaconda3\envs\yolo_env\lib\site-packages (from jinja2->torch>=1.8.0->ultralytics) (3.0.2)

In [12]: `from ultralytics import YOLO`

`model = YOLO("yolov8n.pt") # Load pre-trained YOLO model`

In [13]: `from ultralytics import YOLO`

In [14]: `model = YOLO("yolov8n.pt") # downloads and loads YOLOv8 nano`

In []: `# Run detection
 results = model(r"C:\Users\HP\Documents\YOLO_Object_Detection\images\dog.jpg")

 # Show results in a window
 results[0].show()

 # Save results (YOLO will automatically create 'runs/detect/predict' folder)
 results[0].save()`

image 1/1 C:\Users\HP\Documents\YOLO_Object_Detection\images\dog.jpg: 448x640 1 dog, 165.0ms
 Speed: 2.6ms preprocess, 165.0ms inference, 2.4ms postprocess per image at shape (1, 3, 448, 640)

Out[]: 'results_dog.jpg'

In []: